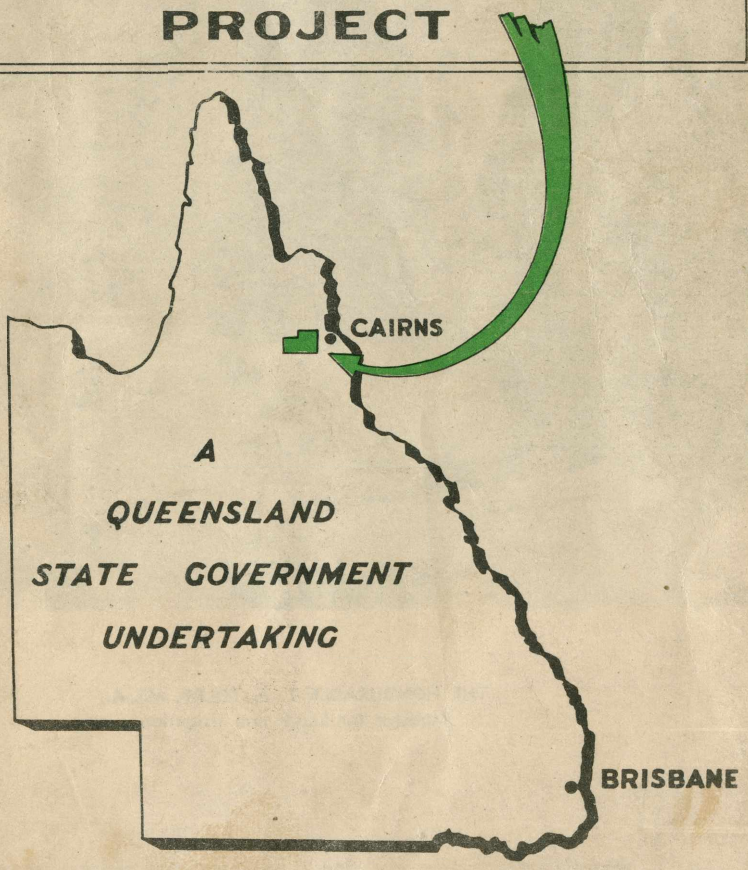
THE MAREEBA - DIMBULAH IRRIGATION PROJECT



A QUEENSLAND STATE GOVERNMENT UNDERTAKING

Its value to the State

THE HONOURABLE T. A. FOLEY, M.L.A.,
Minister for Lands and Irrigation.

MAREEBA-DIMBULAH IRRIGATION PROJECT

AS

OUTLINED IN SPEECHES

by

HON. T. A. FOLEY, M.L.A.
Secretary for Public Lands and Irrigation

in the

Legislative Assembly of Queensland

on

1 April, 1952.

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HON. T. A. FOLEY, M.L.A.

Commissioner of Irrigation and Water Supply:
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Assistant Commissioners of Irrigation and Water Supply:
F. B. HAIGH, A.M.I.E.Aust. H. BUCKLE, A.A.U.Q.

Chief Engineer:
H. H. R. MORTLEY, B.E., A.M.I.E.Aust.

Secretary:
D. F. ERICKSON.

★

MAREEBA-DIMBULAH IRRIGATION PROJECT

APPROVAL OF UNDERTAKING—INITIATION

Hon. T. A. FOLEY (Belyando—Secretary for Public Lands and Irrigation): I move—

"That the Speaker do now leave the Chair and the House resolve itself into a Committee of the Whole to consider the following resolution:—

'That the House approves of the establishment of the undertaking (Mareeba-Dimbulah Irrigation Project) in accordance with the provisions of The Irrigation Acts, 1922 to 1949, and the recommendations of the Commissioner of Irrigation and Water Supply which appear on page 4 of his report on the Mareeba-Dimbulah Irrigation project.'"

Motion agreed to.

COMMITTEE.

(The Chairman of Committees, Mr. Farrell, Maryborough, in the chair.)

Hon. T. A. FOLEY (Belyando—Secretary for Public Lands and Irrigation) (11.10 a.m.): I move—

"That the House approves of the establishment of the undertaking (Mareeba-Dimbulah Irrigation project) in accordance with the provisions of the Irrigation Acts, 1922 to 1949, and the recommendations of the Commissioner of Irrigation and Water Supply which appear on page 4 of his report on the Mareeba-Dimbulah Irrigation project."

High Yields of High Quality.

For a number of years farmers in the Mareeba-Dimbulah area have grown tobacco under dry-farming conditions, but experience has shown that if this valuable industry is to be maintained and expanded irrigation is essential.

All Good Land Not Adjacent to Water.

The results obtained by these farmers, who are favourably situated on flowing streams or near weirs that have been constructed, have demonstrated that with the controlled application of water by irrigation, excellent yields of high-quality leaf can be obtained, but unfortunately much good tobacco land is not adjacent to streams or to weirs.

Even though augmented by several weirs already constructed by the Irrigation and Water Supply Commission the water in the Walsh River at present available is inadequate to meet the tremendous demand for water in that area and this unsatisfactory condition of many farms in the valley gave rise to the demand for the conservation of water.

Nullinga.

Nullinga—Original Site on the Walsh River.

Upon the recommendations of the Bureau of Investigation of Land and Water Resources surveys were undertaken, which resulted in the location of a practicable site for a dam at Nullinga on the Walsh River. Military contour maps produced from aerial surveys during the war having made it evident that water could be diverted from the Barron River over the divide into the valley of the Walsh River, the then Commissioner of Irrigation and Water Supply, Mr. Lang, submitted in 1949 a report upon a proposal to develop an irrigation area by the construction of a dam on the Walsh River, known as the Nullinga dam, this supply to be supplemented later from a relatively small dam on the Barron River. Mr. Lang thought that would be the best method of providing water for 40,000 acres that lie in the Mareeba-Dimbulah area. I have this recommendation with me, and his second recommendation reads:—

"That investigations now in progress be extended and expanded to cover all developmental possibilities inherent in the Mareeba-Dimbulah irrigation project."

As a result of those further investigations, it has been shown that a large reservoir can be created by building a larger dam at Tinaroo Falls on the Barron River instead of the smaller dam previously proposed.

Tinaroo Possibilities.

In the report now before the House the Commissioner of Irrigation and Water Supply has submitted for comparison alternative schemes, (*a*) and (*b*), each of which would involve the construction of a dam on the Walsh River at Nullinga and another dam on the Barron River at Tinaroo Falls. As he points out, either of the two schemes could be carried out in two stages.

Alternative Proposals.

The alternative schemes differ mainly in the order in which the dams would be built.

Economic Comparison.

When that point was reached, an economic analysis was made, the results of which are set out in Table A of the report, and which establish beyond doubt that if the Barron River is adopted as a source of supply only one dam would be needed, because any additional production that would result from the building of a second dam on the Walsh River would be so small as not to warrant the expenditure of more than £7,000,000 on that dam.

Advantages of Tinaroo Dam over Nullinga.

Compared with the Nullinga dam, the Tinaroo Falls dam has the following advantages, viz.:—

"(1) The location of the reservoir is such that it can command the whole of the area of suitable soils where Nullinga dam can command the western portion only."

I point out also the rainfalls in the two areas are Tinaroo 54.4 inches, and Nullinga 42.6 inches.

"(2) It can provide rather more than three times the quantity of water available from Nullinga dam at one-third of the cost per acre foot of draft."

Mr. Hiley: Are those rainfall figures at the dam site?

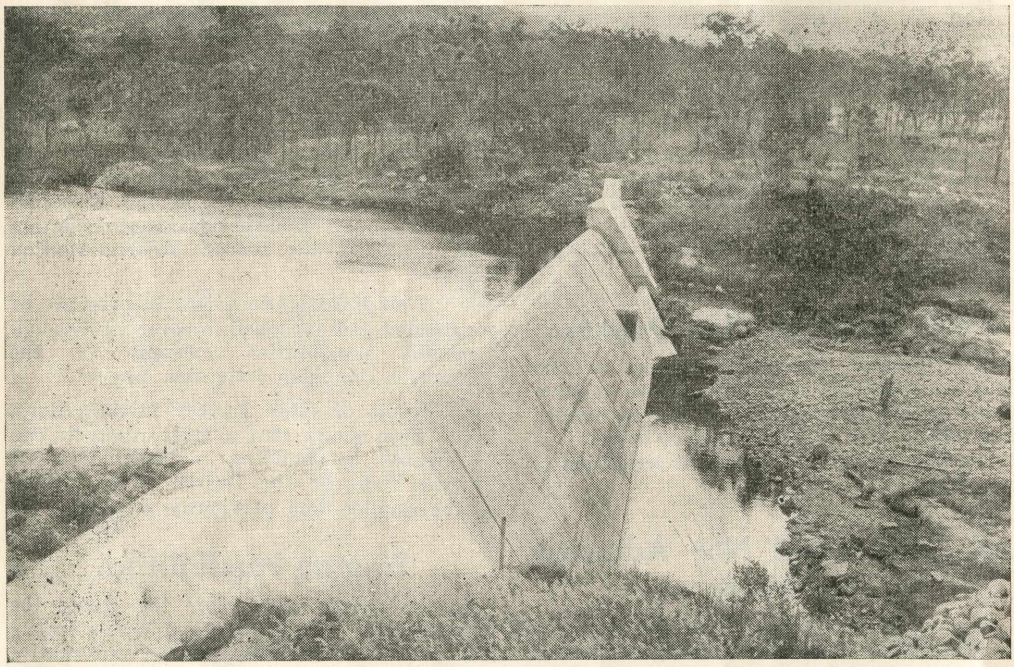
Mr. FOLEY: They are in what is known as the catchment area. I point out also that the cost of storage per acre-foot at Nullinga worked out at £29.8 as against £24.5 at Tinaroo.

"(3) It will be possible to store some water during the construction of the dam."

Storage during Dam construction.

That is because it is proposed to build the Tinaroo Falls dam of concrete, whereas the Nullinga dam on the Walsh River originally was to be an earth dam.

"(4) The stream flow has been measured over a long period and the quantity of water flowing into the reservoir, is known to a high degree of accuracy, whereas—



Solanum Weir—Eureka Creek.
Storage, 280 acre-feet.

in the case of Nullinga dam, the estimated inflow is based on meagre information and is far less reliable.

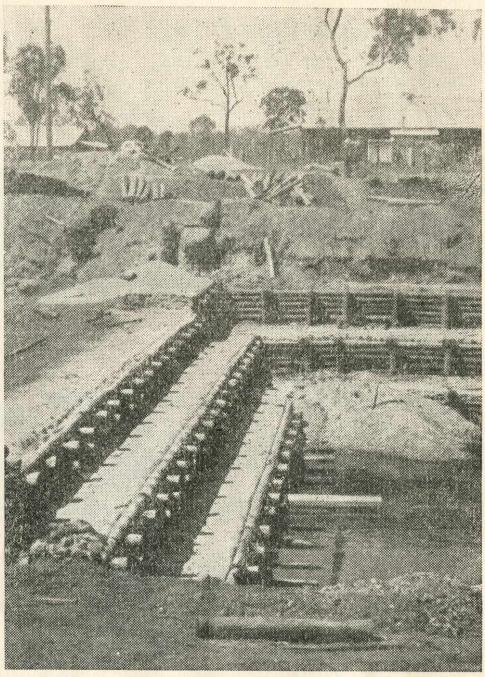
"(5) It will provide more water per farm than Nullinga dam.

"(6) It will serve approximately twice as many farms aggregating nearly three times the irrigated area that can be supplied from Nullinga dam.

"(7) Although the total expenditure on Tinaroo Falls dam and irrigation works is approximately 50 per cent. greater than that for Nullinga dam and irrigation works, production is nearly twice as great.

"(8) The ratio of the value of increased production to expenditure is much greater for Tinaroo Falls dam than for Nullinga dam."

Hon. members will agree that after that thorough investigation and analysis there is no other alternative but to accept the Commissioner's recommendation as set out in his report. Another very important point is that water available from the Tinaroo Falls dam will provide adequate development in the Mareeba area for many years and the decision to construct one dam only instead of two will make resources available at an earlier date to begin other projects in other parts of the State.



Emerald Weir—Emerald Creek.
Storage, 44 acre-feet.

Will Not Hinder Works in Other Parts.

That is very important because in the last few years, although we have increased the number of engineers and technicians employed by the department about three times compared with the number we had in pre-war days, we still have not enough engineers and technicians to enable us to carry on a much bigger programme than we are undertaking now. By building only the one dam, and by making it of concrete, we shall be able to make water available as the work progresses and at the same time free some of our staff for other projects.

The construction of a weir immediately on the Walsh River will bring relief to existing farms on the left bank of the Walsh River sooner than would the construction of the Nullinga dam.

Commissioner Recommends: Defer Nullinga

The Commissioner also recommends that the proposal to build a dam at Nullinga on the Walsh River be deferred indefinitely, since it will not be needed until it is necessary to conserve all available water. He also recommends that approval be given for the construction of a dam at Tinaroo Falls on the Barron River to have a storage capacity of not less than 320,000 acre-feet.

Incidental Jobs to Proceed contemporaneously.

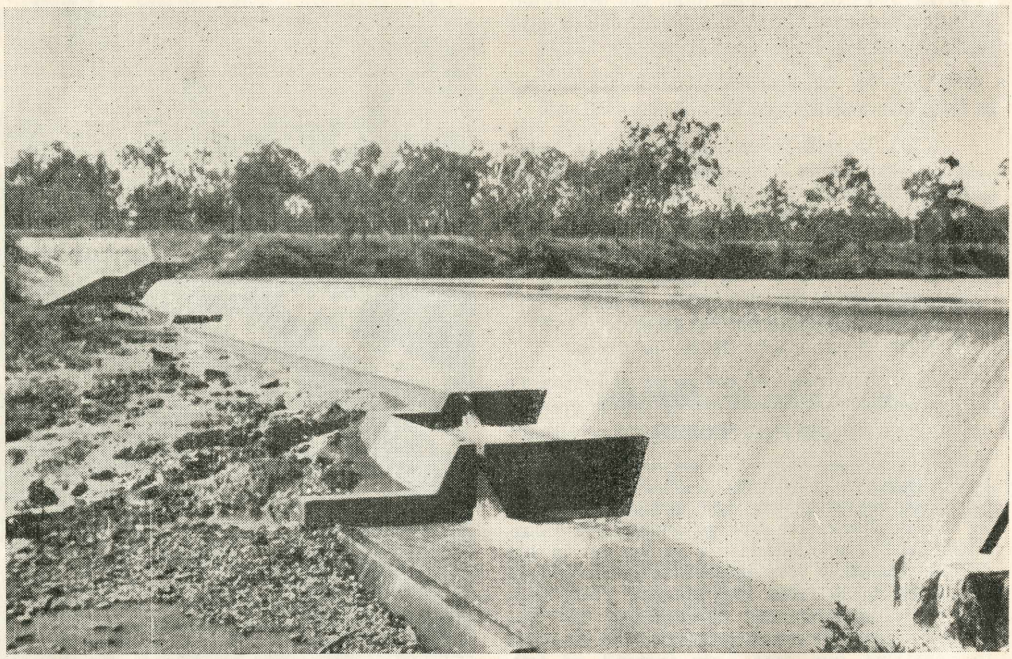
Another recommendation is that sections of the West Barron main channel, the Mareeba main channels, and Atherton Creek lateral be constructed concurrently with the building of the Tinaroo Falls dam and that a weir on the Walsh River be constructed immediately at 167 miles to impound 840 acre-feet of water.

Another recommendation is that a section of the South Walsh channel be constructed concurrently with the building of the weir and that the remainder of the project, including main and reticulation channels and pumping stations, be carried out continuously until completed and that farms be developed concurrently with that work.

Recommendations Correspond with Report.

These recommendations correspond with the proposals described as Stage 1, Alternative B. in the Commissioner's report, with the addition of the weir at 167 miles on the Walsh River and the connecting channel from this weir. Reference to details of Stage 1, Alternative B. on page 5 of the Commissioner's report will provide full information and give a comparison of the two proposals.

In order to have it recorded, I propose quoting from the actual report. The table on page 5 shows that.



Bruce Weir—Walsh River.
Storage, 790 acre-feet.

—	Nullinga Dam on Walsh River.	Tinaroo Falls Dam on Barron River.
Catchment area, sq. miles ..	124	220
Average annual rainfall, inches	42·6	54·4
Capacity of proposed storage, acre-feet	240,000	320,000
Normal annual draft available for irrigation, acre-feet	50,000	165,000
Cost of storage, total ..	£7,166,000	£7,830,000
Cost of storage, per acre-feet of capacity	£29·8	£24·5
Cost of storage, per acre-feet of normal annual draft ..	£143	£47·5

Hon. members will agree that taking it from every possible angle the Tinaroo Falls dam on the Barron River is the better.

I should perhaps tell the Committee of the number of farms available to be supplied with water. The table shows—

—	Nullinga Dam on Walsh River.	Tinaroo Falls Dam on Barron River.
Number of tobacco farms ..	768	1,180
Number of mixed agricultural farms	Nil	240
Total area irrigated per annum, acres	12,288	37,920
Estimated total expenditure, including working expenses, to date of completion of works and farms	£13,766,095	£20,138,194

I think I have quoted the most important phases under Table A. There is further information as to when it is possible to provide water for these farms.

Mr. FOLEY: It would be possible to construct the Nullinga dam on the Walsh River at an early date but it would not serve the same number of farms as the other proposal.

Storage Capacity.

To continue a description of the works, I would point out to hon. members that 320,000 acre-feet of water will be impounded by the dam at Tinaroo Falls but the exact type of dam has not been finally determined and quite a lot of surveying has to be done, surveyors being at work in the area at the moment. It is estimated that the height of the dam will be in the vicinity of 133 feet; the dam will be a mass gravity concrete structure requiring some 400,000 cubic yards of concrete. This requirement will test our home production as well as overseas supplies.

Area to be Submerged; Some at Present in Use.

The area actually submerged by the dam when full will be 10,000 acres and it will be necessary to resume some 15,000 acres, of which 5,284 acres are at the present time being used for dairying and agriculture, the balance being either grazing or forest land or State forest reserves. Hon. members will see that some resumptions will have to be made. One small village will possibly have to be absorbed and there will be a diversion of a road, and a railway system as well. All these costs of resumptions and the work of carrying out these diversions and reconstruction of roads is included in the total estimated cost stated in the report.

The purpose of the project is primarily to grow tobacco.

Number of Farms.

It is expected that some 1,180 tobacco farms, including those already established, will be developed. However, the tobacco soils are not in one continuous area. Hon. members who have studied the coloured map that is provided with the report will notice that they are scattered over the area, with other agricultural soils interspaced between them, so that a considerable amount of land will be watered for mixed farming, the raising of crops of various kinds, and the growing of permanent pastures, in respect of which we are at the present time carrying out a good deal of experimental work. We have already determined that permanent pastures are of advantage in the fattening of cattle. It is estimated that some 240 agricultural farms will be established by the water that is to be supplied.

Subdivision of Resumed Land.

It is intended to resume or acquire all lands in the area, subject to retention by existing farmers of suitable living areas under irrigated production. All resumed lands will be resubdivided to provide for average areas of 50 acres in the case of tobacco farms, and some 80 acres in the case of mixed agricultural farms. The design of subdivision will be based on detailed topographical and soil surveys to permit of the most economical lay-out of the irrigation works.

Sufficient water will be made available for tobacco farms to permit of the irrigation of 24 acres annually, of which 10 acres are expected to be of tobacco, and for mixed agricultural farms to permit of the irrigation of 40 acres annually. Anyone who has been on an irrigation settlement knows the work involved in irrigating 10 acres. The irrigating of 40 acres of pastures is full time work over the whole of the period involved. Possibly a good deal of labour will have to be engaged to enable us to irrigate such areas as are estimated.

Total Cropping.

The total area of the various types of crops to be produced is expected to be—

	Acres.
Tobacco farms	11,800
Other crops, such as potatoes, pumpkins, cotton and peanuts	16,520
Mixed agricultural farms for the production of cotton, maize, cowpeas, peanuts and other crops	9,600
Total	37,920

Water Delivery to Farms.

The amount of water that will be delivered to farms for the various crops, after allowing for distribution losses, is expected to be—

—	Acre-feet.	Percentage of water stored.
Tobacco farms	24,000	29·2
Other crops on tobacco farms	33,000	40·2
Mixed agricultural crops ..	25,000	30·6
Total	82,000	

Total Annual Production.

The Commissioner has supplied me with a few figures showing the approximate quantities of the various crops that are likely to be grown, as follows—

Tobacco	11,800,000	lb.
Potatoes	33,000	tons
Pumpkins	33,000	tons
Cotton	3,840,000	lb.
Maize	4,800	tons
Cowpeas	48,000	bushels

That estimate has been presented purely to indicate the extent of the production that is possible from this project.

Annual Value of Main Crops.

Crops of major importance are, of course, tobacco and cotton, the annual values of which it is estimated will be £4,700,000 and £300,000 respectively.

Saving on Imports.

The production of these in Australia could result in savings on imports of about 6,500,000 dollars and £300,000 per annum on supplies from dollar and non-sterling sources respectively.

Walsh River Weir Will Give Early Relief.

The proposal to construct a weir on the Walsh River at 167 miles and the South Walsh main channel running from this weir through the left-bank Walsh area will give a supply of water to existing dry or semi-dry

farms in this locality earlier than would have been possible from the construction of Nullinga dam, and will not cause any delay in supply to these farms from Tinaroo Falls dam.

No New Farm Supply Until Tinaroo Water Comes.

The water will not be sufficient to provide for any new farms at this stage, but full development of the area will be possible when water is available from the Tinaroo Falls dam.

Timetable Advanced.

As indicated in the report, the adoption of a concrete dam at Tinaroo Falls will make it possible to store water during construction of the dam. Under these circumstances it is expected that supply from the dam can be made available in 1956-57 and progressive development of the project is expected to be achieved up to the total indicated in Stage 1, alternative B, of the report, of 1,180 tobacco farms and 240 mixed agricultural farms by 1968-69.

Estimated Capital Cost.

The estimated capital cost of the project is set out in the report and, based on wages and prices as at 30 September, 1951, is £19,350,000, including the cost of the weir at 167 miles on the Walsh River and the connecting channel from this weir.

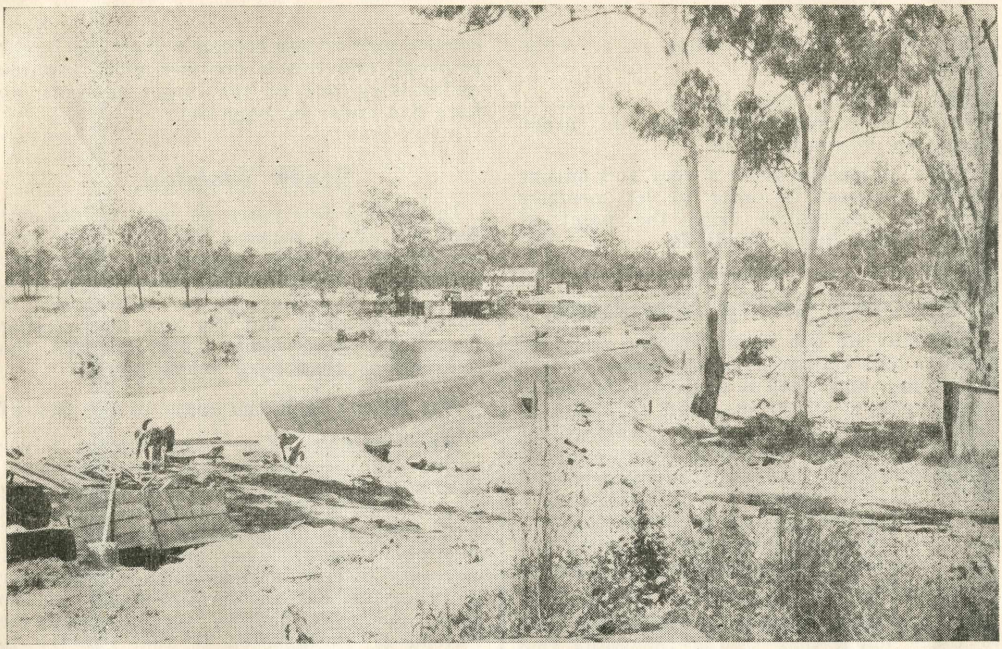
Estimated Annual Expenditure.

The estimated annual expenditure on the project for operations, maintenance and management, based on wages and prices as at 30 June, 1951, is £165,000 and for interest and redemption charges £911,000, a total of £1,076,000.

Annual Revenue.

The direct revenue from the project, including all water and drainage charges, land and other rentals, is estimated to be £287,100 per annum. The direct revenue is therefore a long way short of the annual commitments in connection with the project.

★ Tobacco growing under furrow irrigation, Mareeba District. ★



Leafgold Weir—Walsh River. Storage, 320 acre-feet.

Annual Balance Outstanding.

This will leave an amount of £788,700 per annum to be found by the State or the State and the Commonwealth, should the Commonwealth agree to come into the scheme.

Precedent Established.

These schemes must be regarded as national works and there is a precedent for Commonwealth help in Victoria and New South Wales, and in other parts of the world. No matter what State you may go to or what country in the world you may visit you will find that the sums involved in the construction of these projects and even small weirs are so immense that the entire capital cost cannot be passed on to the settlers in the form of water charges. The bulk of the capital cost has to be debited against the State or the State and the Commonwealth in this case, if the Commonwealth joins in, but at least some of the capital cost may be recovered from the settlers.

National Work.

It is rather interesting to find, when you come to study the matter, as a national work, that it is by no means indicated that the project is not a profitable one for the community.

Increased Revenue: Increased Population.

The creation of closer settlement in the area and the increase in production will result in a substantial rise in indirect revenue to the State and Commonwealth, resulting not only from the increased production and increased rural population, but also from the increased local urban population, and the additional demand for goods and services that such a population would create.

Estimated Indirect Revenue.

The value of this increased revenue has been found in Victoria to be equivalent to two-fifths of the gross annual value of the increase in production at the farmers' principal market. Of a total estimated increased value of production of £6,161,000 annually, therefore the increase in indirect revenue from State and Commonwealth is estimated to be £2,464,000, which far out-weighs the £788,700 by which the estimated annual expenditure exceeds the direct revenue. Hon. members will see that the direct revenue is limited but the indirect revenue is such that the State and the Commonwealth will benefit to the extent of a considerable amount.

12% of Capital Cost.

Expressed as a percentage of the capital cost, the indirect returns amount to 12 per cent., which can be regarded as a very favourable result.

350% Population Increase.

In addition to the advantages to be gained from increased production, the increased population in the area that will result from the development is estimated to be 16,000, or an increase of approximately 350 per cent. on the present population.

Defence.

Hon members can realise what that will mean in benefit to the northern part of the State and its importance from a defence point of view.

Mr. H. B. Taylor: That is on completion of the work?

Mr. FOLEY: Yes. There will be a local farming population and an urban population adjacent to it.

I have purposely given a very full outline of this proposal in order to let members know its possibilities from the point of view of higher living standards.

Improved Living Standards.

Naturally we get higher returns from the pastures and cultivated crops raised on irrigated land, and there is a greater chance of maintaining a higher standard of living in the northern part of the State if this will be established than if the people there were compelled to rely on the dry-farming system used in the past few years. I visited this area a number of years ago and I noticed then the number of deserted farms and the barns and other structures that have been built there at considerable cost.

In conclusion, there is one subject I wish to touch upon, that is, the foodstuffs that will be required to feed this nation as well as other peoples as the years go on. A statement was made by a correspondent in the Press a month or two ago that we should concentrate upon the production of foodstuffs rather than tobacco. The reason why I mentioned that the area is suitable for tobacco-growing is that it has been found that these lands are more suitable for the production of very good tobacco leaf for which a high price prevails, than for other crops, but that does not mean that the land will not produce other crops; tobacco land will produce other crops, as has been proved at Clare and other places and I feel that if ever the time comes when a call has to be made to the farmers of the North to produce foodstuffs to meet the requirements of even this nation or any other nation that call will be answered.

Feeding a Nation.

It is an inherent human characteristic to want to provide food for those who are hungry. This land will be used primarily for tobacco-growing but it can be converted to the production of foodstuffs if the occasion demands it.

I have endeavoured to give the Committee a full account from all angles of this project, and I believe we shall have the fullest support of the Committee in passing the motion. But the occasion may be taken to mention the progress we are making in irrigation in this State generally.

Larger Storages Preferred.

It is true that up to date we have built only a certain number of weirs ranging in capacity from 400 to over 2,000 acre-feet but they are definitely uneconomic. The Commissioner and others of his staff with whom I have discussed the matter point out that the smaller weir is less economic than the larger proposal, and this is our first move towards undertaking one of the larger projects we have had under investigation.

Staff Trebled.

In the last few years we have trebled our staff but at the moment the position in that respect is virtually stationary. We have approval to appoint inexperienced engineers, graduates just leaving the universities, if we can get them, but the new men coming in so far have really only balanced the resignations that have taken place.

Mr. Hiley: Is it the same in the South?

Mr. FOLEY: Yes. The Snowy River authorities went so far as America, Great Britain and Europe, and after interviewing many hundreds of engineers in those countries were successful in obtaining the services of only about eight. They have now found it necessary to call for tenders in America for the carrying out of certain stages of the work and even had to arrange with the Bureau of Reclamation in that country to carry out the work of planning and designing the various weirs and channels of the project.

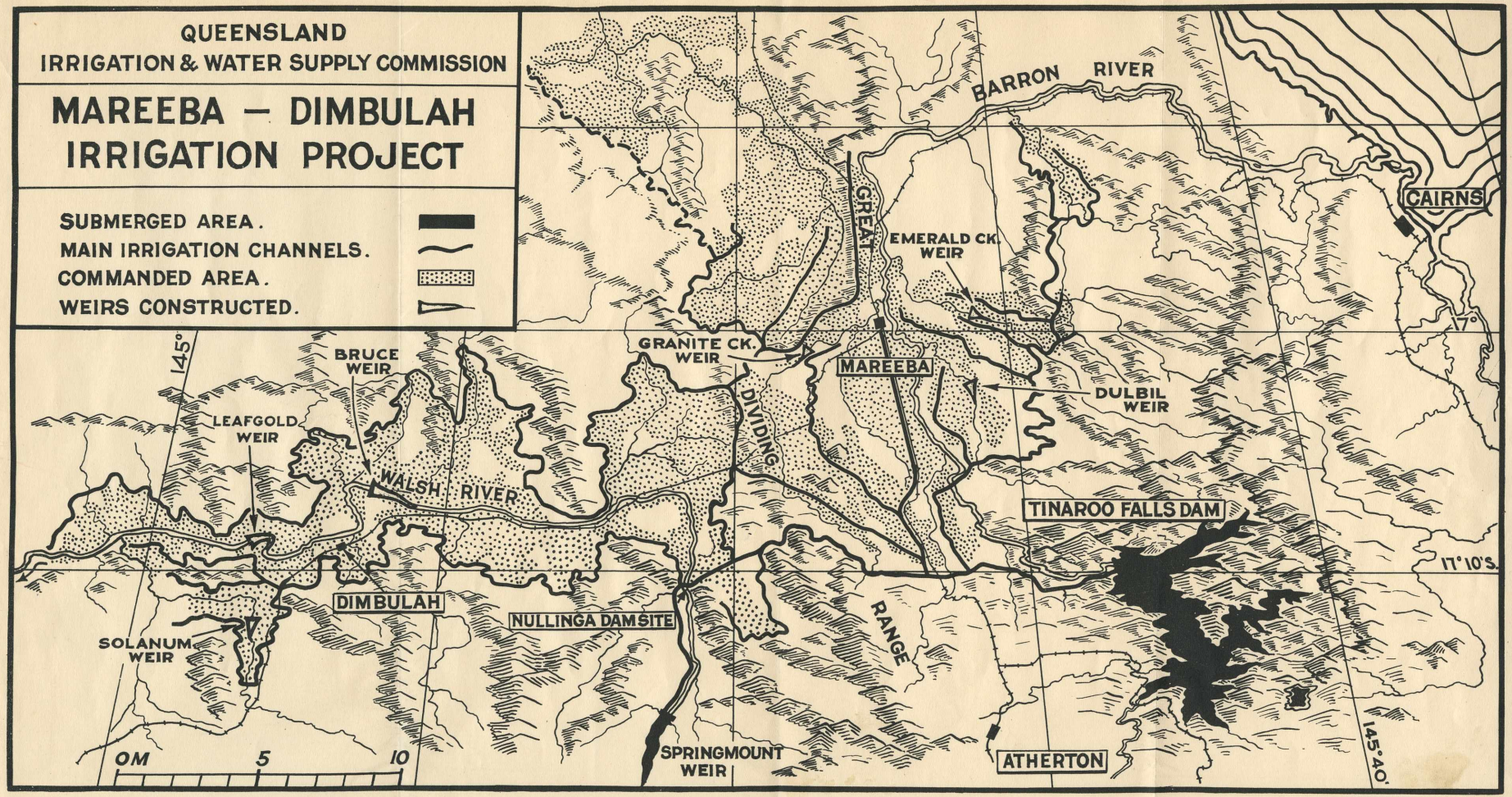
Mr. H. B. Taylor: There was another motive besides that.

Mr. FOLEY: The reason for doing that was that they could not get the staff in Australia. They are unable to get staff here because of the demand for engineers in all the States and by the Commonwealth Government. Our own chief engineer had to do the designing as well as his ordinary work during the period in which we were training a young man in this work. Our difficulties have been overcome to some extent, but when in such big projects as the Barron dam or the Dawson River dam, failure could result if experienced planning and designing engineers were not employed.

I have great pleasure in submitting the proposal for the consideration of the Committee.

Ministerial Reply to Debate.

Hon. T. A. FOLEY (Belyando—Secretary for Public Lands and Irrigation) (5.7 p.m.): I was astounded at the change of attitude of some hon. members opposite today. I remember that not so long ago we had in this Chamber a full-dress debate on the lack of attention to the northern part of the State. I well remember that on that occasion hon. members opposite set out all the disabilities suffered by the North, all the things that were required in the North, and all the things that the Government had neglected to do there. Now, when an honest move is made by the Government to do something of great value to the development of the North, they say the report of the Commissioner is incomplete, that this and that have been left out, that they would support the proposal if they had some definite report and plan before them.


QUEENSLAND
IRRIGATION & WATER SUPPLY COMMISSION
MAREEBA – DIMBULAH
IRRIGATION PROJECT
SUBMERGED AREA.
MAIN IRRIGATION CHANNELS.
COMMANDED AREA.
WEIRS CONSTRUCTED.
BARRON RIVER
CAIRNS
GREAT
EMERALD CK. WEIR
17°
145°
BRUCE WEIR
GRANITE CK. WEIR
MAREEBA
DULBIL WEIR
LEAFGOLD WEIR
DIVIDING
WALSH RIVER
TINAROO FALLS DAM
17° 10'S.
DIMBULAH
NULLINGA DAMSITE
RANGE
SOLANUM WEIR
0M
5
10
SPRINGMOUNT WEIR
ATHERTON
145° 40'

Harvesting Tobacco

—

Mareeba.

Let me point out to the Committee what the Act dealing with these matters asks me to do when presenting the Commissioner's report to Parliament. The Act is the Irrigation Act of 1922 and it makes provision for the undertakings to be approved of by Parliament and says—

> "No irrigation undertaking shall be established until the proposed scheme of the undertaking has been submitted to the Legislative Assembly for approval, and has been approved by a resolution of the Legislative Assembly.
>
> "When it is proposed to establish an irrigation undertaking and to constitute an Irrigation Area in relation thereto, the Commissioner shall forward to the Minister a report with respect to the proposed scheme.
>
> "Every such report shall contain or be accompanied by the following particulars, that is to say:—
>
> (*a*) A map or plan showing the boundaries and the extent of the lands proposed to be comprised in the Area;"

That map is contained in the earlier part of the report and is edged in red, showing hon. members the boundaries. It continues—

> "(*b*) A description setting forth the scheme and purpose of the proposed works;
>
> "(*c*) A general plan, prepared on a scale approved by the Minister, showing the nature and extent of the proposed works;"

If hon. members refer to the particulars accompanying this report they will find that Figure 3 sets out all the information required. It continues—

> "(*d*) An estimate of the total cost of the works and of the annual charges necessary for the maintenance and management of the undertaking;"

Those particulars have been supplied.

> "(*e*) A statement as to what amount of money it is proposed should be advanced to the Commissioner by way of loan for the undertaking;
>
> "(*f*) An estimate of the annual revenue expected to be derived from the proposed works; such estimate of annual revenue to allow of the suspension, for the first three years after settling on the Area, of any payments by the settler other than such rates as the Commissioner in his capacity of a Local Authority may require;
>
> "(*g*) An estimate of the quantity of water that is proposed to be made available for use for irrigation purposes in the Area, after making allowance for present and probable future requirements for all or any other purposes; and a statement of the sources from which it is proposed to obtain it, specifying, where deemed necessary, the quantity of water proposed to be taken from each of such sources and the seasons at which it is to be taken."

A Complete Picture.

Full particulars are available in the report of what water will be impounded and what amount will be available for each farm it is proposed to establish. All this is supplied in the maps accompanying the report. And then the Act goes on to deal with streams, &c., in the area, existing waterworks, land capable of irrigation, and a full report on that aspect has been supplied. The Bureau of Investigation of Land and Water Resources has submitted to the Commissioner of Irrigation and Water Supply a reconnaisance survey of the soils in the area. That survey is still going on with a view to giving a more complete picture, as time will allow. The Act then deals with works for joint benefit of area and other land, and that is also provided in the report.

Legal Requirements.

Then the Act says that the report is to be laid before Parliament and states—

> "Copies of such report, with all accompanying plans, sections, books of reference, and other documents relating to the proposed scheme, shall be prepared by the Commissioner and laid before the Legislative Assembly. Every such report shall contain a plan showing the boundaries and extent of other lands which may be acquired for the purposes of this Act and an estimate of the cost of acquiring same."

All that information has been supplied.

May I also point out that in the earlier part of the report we have a summary, as provided for in the Act. Mr. Nimmo comes to his conclusions and his recommendations are then given as follows—

> "(1) The proposal to build a dam at Nullinga on the Walsh River be deferred indefinitely since it will not be needed until such time as all available water must be conserved;
>
> "(2) Approval be given to the construction of a dam at Tinaroo Falls on the Barron River to have a storage capacity of not less than 320,000 acre-feet. A definite decision regarding the precise location of the dam and its initial and ultimate height and cost must await completion of surveys and foundation exploration;"

That is the point that has been worked on throughout the debate. Some hon. member said something, and the rest of the speakers took the matter up. That is something that must wait; it is not required by Parliament.

Mr. H. B. Taylor: Why was it necessary to bring forward a motion when it was not necessary to bring forward a motion on the Nullinga dam plan?

Mr. FOLEY: It was never presented to Parliament. A preliminary report was made to me as Minister, and I presented it to Cabinet and Cabinet agreed to the carrying out of further extensive inquiries.

Mr. H. B. Taylor: In the Governor's Speech he said that you had done the work.

Mr. FOLEY: It had not reached the stage when a definite conclusion had been arrived at. It was only the opinion of Mr. Lang at the time, who thought that it would be possible to bring water from the Barron River over the divide into the Walsh River catchment area, and to build a dam at Nullinga, and supplement the supply from the Barron River.

Mr. H. B. Taylor: In other words, it was not a plan determined?

Mr. FOLEY: No, it was merely a report submitted to me recommending further investigation into the whole scheme. That investigation has been made and the stage has been reached where Mr. Nimmo, as Commissioner of Irrigation and Water Supply, is satisfied that this project is practicable and can be gone on with, with advantage to the State. He continues his recommendations as follows—

> "(3) Sections of the West Barron Main, Mareeba Main Channels, and Atherton Creek Lateral be constructed concurrently with the building of Tinaroo Falls Dam;
>
> "(4) A weir on the Walsh River at 167 A.M.T.M. to impound 840 acre-feet of water be constructed immediately;
>
> "(5) A section of the South Walsh Channel be constructed concurrently with the building of the weir;
>
> "(6) The remainder of the project including main and reticulation channels and pumping stations be carried out continuously until completed and farms developed concurrently."

Mr. Nimmo goes on to deal with the financing of this project and signs the report as Commissioner of Irrigation and Water Supply. I maintain that a man of the calibre of W. H. R. Nimmo, who is held in high respect in the engineering world, and who possesses the qualifications of Master of Civil Engineering, Member of the Institution of Civil Engineers, Member of the American Society of Civil Engineers, and Member of the Institution of Engineers, Australia, would not put his name to a report unless he was thoroughly satisfied that it was a practical proposal.

Parliament Fully Apprised.

Hon. members have had the opportunity of reading that preface to the report and the recommendations. The report itself is laid out in such a way that no great period of time is required by anyone to get a picture of what is envisaged by the Commissioner and his staff in the carrying out of this project. That being so, I feel that I have reported on the project to this Parliament as I should have. I have done everything that the Act says I shall do—and the Commissioner in turn has carried out his obligations to Parliament. He has given us all the data, all the figures, all the calculations, all the estimates, and all the maps necessary to satisfy the ordinary layman that this scheme is practicable.

Then we have hon. members, led by the Leader of the Opposition, questioning whether this proposal will ever be carried out. For the information of hon. members, I point out that in January last, before this report went to the Government Printer, it was presented in typed form, with all the maps, by me to Cabinet. It was debated very extensively by Cabinet, who eventually agreed that there was no other plan to adopt but to follow the recommendations of the Commissioner.

Larger Storages More Economical.

It has been pointed out to me over and over again that all these small schemes in various parts of the State, desirable though they may be, are definitely uneconomic. Although you cannot unload all the capital cost of constructing a dam to carry out a large irrigation project on to the settler by way of water charges or rental, such schemes are more economical than smaller weirs that impound only a very small quantity of water at a very high capital cost. That is the Commissioner's argument, and this is only one of the larger projects that are being investigated. As the hon. member for Clayfield has pointed out, Cabinet has received only preliminary reports, and I have for the information of hon. members, sent them copies of reports on the Dawson Valley, the Nogoa and the Burdekin. The latter investigations have been carried out by the Co-ordinator-General of Public Works.

As an example, we have the Nogoa right in the centre of a large pastoral belt where fodder could be conserved at the point where it is most required during drought periods. That scheme commands a greater area of land than this one. The water could be impounded at a lesser cost but we favour the North because of the facilities that would be given to the people who could produce tobacco, which is urgently needed now because of the import restrictions, and thus save this country many millions of dollars and avoid demands on sterling countries for tobacco purchases. It would increase the population as well and it is expected that population will increase by 16,000 as a result of the scheme, which is a very favourable contribution towards the greater defence of the northern part of the State.

Irrigation Essential to Expansion.

In view of all these arguments, hon. members should be satisfied that the project is well worth carrying out but it does not follow that because Cabinet agrees that it should be done it is purely for propaganda purposes. It so happened that the investigations of the Commissioner were not completed at the time that the report was first presented to me.

Mr. H. B. Taylor: The Commissioner is still investigating the Nogoa scheme?

Mr. FOLEY: Yes. He is still boring for foundations at the Nogoa gap and he has almost completed the Selma weir in the Nogoa River. A great proportion of the water that will be impounded will be used for the Queensland-British Food Corporation for production by irrigation. There will be preliminary experimental farms of immense value to the entire district where water can be applied effectively to the soil in the area.

Mr. Luckins: Are they still investigating the Dawson scheme?

Mr. FOLEY: Yes. A preliminary report has been presented to Cabinet on the Dawson Valley project and I think some hon. members have had a copy of it. I know that the hon. member for Clayfield has a copy of it. The report recommended that further investigations should be carried out. When the Commissioner has completed his investigations to the point where he is satisfied that the scheme is sound his report will be presented to me, I will take it to Cabinet, and from Cabinet it will come to Parliament for support and adoption, as we are doing in the case of this scheme.

Comet River.

There is a scheme on the Comet River, too. Right in the heart of a pastoral district a gorge on Warranilla station can be impounded to conserve a tremendous quantity of water at not a very high cost.

Mr. Luckins: It will impound the water that is now running from the coast.

Mr. FOLEY: Yes. The water will eventually reach the sea because it comes from part of the Mackenzie and Nogoa watersheds. If we impound that water we can irrigate a large area of arable land along the Comet River.

I can assure hon. members opposite that there is no occasion for this Government to present these schemes to Parliament for propaganda purposes. We are sincere in this connection because we realise the value of irrigation. It is estimated that this project will increase production considerably in the Mareeba-Dimbulah area. Where it is producing a few hundred thousands pounds' worth of wealth at the present time it will increase it to between £5,000,000 and £6,000,000 annually.

Mr. Muller: When do you expect the scheme will be in use?

Mr. FOLEY: It is pointed out in the report that in the next four or five years we may have made such progress with the dam at Tinaroo that it will have conserved some of the water required for the scheme and at that point it will be applied to whatever area can be watered. Gradually the scheme will reach the point where it will be possible to supply water to the whole of the area.

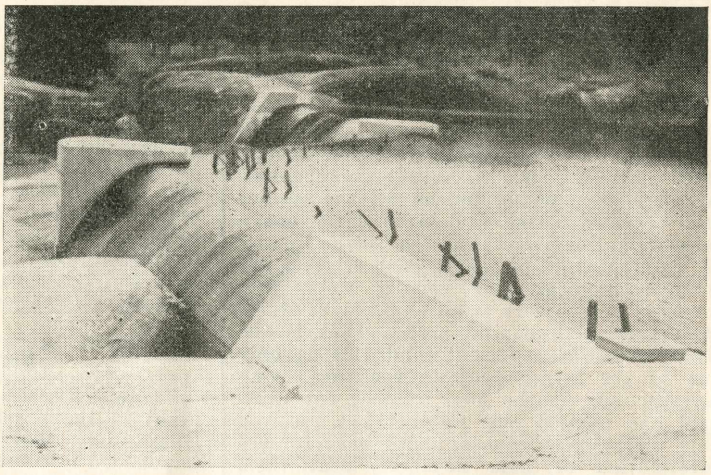
Mr. H. B. Taylor: Would it be unfair to say that that was extraordinary optimism?

Mr. FOLEY: Yes. We have a pretty good team of men, many of them taken right out of the Universities, without any experience at all. Up to date, in carrying out similar projects we had to take young men out of the Universities and place them in charge of jobs although they had no practical idea of carrying out the work or handling the men. However, we had very few failures, and on the whole they did a very fine job. There were occasions when there was delay in carrying out some of our projects. There was a good

Granite Weir—

Granite Creek.

Storage, 146 acre-feet.



deal of delay at Whetstone in the south-western part of the State. They have now adopted the practice that before they start building the weir of seeing that every piece of material is either on the job or in sight so that they will not be held up, as they were with other jobs.

Ministerial Assurance.

I can assure the Committee that Cabinet is serious on this matter, and I pass on that message to the northern people. As soon as approval is received this job will go on. As a matter of fact, all the investigations and other preliminary work are going on at the present time, and once word is given to carry on the job the Commissioner and his staff will go straight ahead with it.

Mention was made by the hon. member for Coorparoo of his visit to the Nullinga site. I must say he was fair enough to approve of the switch-over. He no doubt realised that a man like Mr. Nimmo would not recommend a switch from one proposal that was made some time ago to another one unless he had good grounds for doing so.

I point out that in Recommendations (2) the 1949 report says—

> "That the investigations now in progress be extended and expanded to cover all developmental possibilities inherent in the Mareeba-Dimbulah irrigation project."

I have certain inside information, which shows that what led to the further investigations was that before Mr. Nimmo became Commissioner he had reported on this area for the Co-ordinator-General in connection with the harnessing of the Barron for electricity and power purposes. As a result of the knowledge he obtained of that catchment area and its possibilities, he carried out this further investigation, which has led him to the conclusion that we can do a much better job by starting at Tinaroo Falls on the Barron, and watering the whole of the area from there at a much cheaper rate than if we adopted the original project.

Importance of Proper Planning.

Another very important point raised was the length of time it may take to carry out this project. I wish to emphasise that much time is necessary before an irrigation scheme can be carried out. First of all, there is all the necessary preliminary work associated with it before there is even a recommendation. That necessitates the surveying and levelling and the correlating of all the information collected by the various men on the job. Then a recommendation is made, and then there is the accumulation of the material and the engaging of the necessary labour. All that takes time and cannot be carried out overnight.

Another thing we have to consider is that even if you were able to carry out a big project in a few weeks, you would still have the task of training many of the farmers who will go onto that area and use the land under what is known as wet-farming conditions. Every man sent up to the Clare irrigation project had to put in at least 12 months with a big tobacco-farmer in order to learn the business. The result was when these men got there they were familiar with what was necessary to grow tobacco under irrigation conditions. The same thing applies to other crops. A man who has no knowledge of the application of irrigation cannot go onto an irrigation block and use that block for permanent pastures. He must know all about grading and draining of the land, all of which costs money and time. If he is dumped on the block without some training in these things, he will be a complete failure.

Mr. H. B. Taylor: Are you going to ask that this be included in the Commonwealth War Service Land Settlement Scheme?

Mr. FOLEY: Partially because we can absorb many of the settlers who are listed under that scheme.

Other Projects.

The hon. member for Lockyer, the hon. member for Darlington, and one other hon. member said that we should have more irrigation projects in the South, where we have the land and the population, and where certain irrigation work is being done. I point out that over the years we have attempted to distribute our weir construction over as wide an area as possible. We have carried out a vast programme in the South. At Mundubbera, on the Burnett, we have an excellent weir that backs up the water for about 8 miles. Although it is not big enough for a community scheme such as the one recommended to the Committee, it does give an enormous advantage to the people along the Burnett, in that every year, despite drought, there is a plentiful supply of water for the farms between there and Gayndah.

Mr. H. B. Taylor: You have only two 18-inch valves there.

Mr. FOLEY: The fact is that we have supplied them with water and we have another 2,000 acre-feet available. We are endeavouring to induce the Mundubbera Shire Council to organise the farmers adjacent to the weir to go in for irrigated pastures, and I think they will agree. They have asked us to buy them a grader, and although we have not done that, we have done as much to help them as any Government could do.

At Mungungo on Monal Creek there is another project. At Mulgeldie we have one on the Three Moon Creek. Then there are the Wilson, Brightview, Jordan, and O'Reilly weirs on the Lockyer Creek. No mention was made by the hon. member for Lockyer of all that work we have done in his area. Recently he came to me with a representative of the Gatton Shire Council asking for a weir. I think that has been investigated already by Mr. Nimmo who discussed the matter on the spot with the men who are interested.

As has been pointed out by one hon. member, although much of the water used for irrigation in the Lockyer Valley does not come directly from the water stored by weirs, it is accepted by all engineers that the construction of the weirs has lifted the water-table in the underground gravels to such an extent that there is now virtually a permanent supply of water where once it was very unreliable.

Mr. H. B. Taylor: That is why I praise the Barker's Creek weir.

Mr. FOLEY: That is so, and it is all to the advantage of the district. As time goes on, other weirs will be necessary if we wish to extend operations in that valley.

Southern Queensland.

On Warrill Creek we have two weirs, one at Aratula and the other at Church Bank. We also have a weir at St. George on the Balonne River and Whetstone weir on Macintyre Brook. Then there is the weir on Barker's Creek in the Nanango district. Then we have another to the north, at Silver Leaf, on Barambah Creek. Then, of course, there is the Bonshaw weir on the Dumaresq River. It is part of a big scheme that will move along as soon as the surveyors and other officers of the Commission collate all the information they have been endeavouring to obtain. It all takes time. One cannot establish a dam at a certain point on a river until one has the fullest information to guide him and to guide Parliament as to what is required.

Mr. Decker: Is there anything moving at Wandoan?

Mr. FOLEY: Not in the way of irrigation, but in the supply of water to settlers. Tenders have been accepted for the first batch of 11 tanks and provision has been made for the sinking of one or two artesian bores. Others will get water from the sub-artesian supply.

I have quoted these facts to show that the South has been well catered for as compared with the North. This project will naturally be one of the biggest projects carried out.

At this stage I ask permission to infringe the rules of the House for a moment by pointing out that the Irrigation and Water Supply Commission has been allotted the work on the Burdekin weir and is carrying out all the work necessary on the diversion weir, which is part of the Burdekin scheme. The Co-ordinator-General of Public Works has in hand all the investigation work necessary before starting with the bigger dam. In the meantime all that is required in connection with these projects at this stage is being carried out by the Commissioner of Irrigation and Water Supply and the Co-ordinator-General.

I now wish to deal with the question raised by the hon. member for Clayfield, whether the project will be an economic one. He knows from his investigations and reading that no irrigation project yet constructed could be called an economic scheme.

Mr. H. B. Taylor: You must accept water as a public utility.

Mr. FOLEY: Yes. The State or somebody has to carry part of the capital cost because it is impossible to pass on the whole of the capital cost to the farmer in the form of rents or water charges.

Thumbnail Sketch.

To give hon. members an idea of this scheme, which will convert the area to greater productivity, I would say that the dam will hold 320,000 acre-feet of water, a tremendous volume, and it will supply 165,000 acre-feet of water per annum to 38,000 acres of agricultural land. It is estimated to supply water to

1,180 tobacco farmers and 240 farmers of other agricultural crops. The produce from the area is estimated to be—

Tobacco	11,800,000 lb.
Potatoes	33,000 tons
Pumpkins ..	33,000 tons
Cotton	3,840,000 lb.
Maize	4,800 tons
Cowpeas	48,000 bushels

And various other crops will be produced. I think the hon. member for Clayfield knows that; other hon. members know that by the time this project is completed——

Mr. Sparkes: We shall be spouting up daisies.

Mr. FOLEY: I hope to be alive to perform the official opening. The point I emphasise is that by the time the job is completed the demand of the Australian population for foodstuffs will be so intense that this scheme will prove itself worth while. One has only to think of the amount of beef, mutton, dairy products and other foodstuffs required in this Continent by 1960 to make one shudder as to what is going to happen if we do not make a move in this direction.

Mr. H. B. Taylor: Has Cabinet decided to ask the Commonwealth Government to give help?

Mr. FOLEY: Yes. The hon. member for Mirani raised this question and he was quite emphatic that this report had not been submitted to the Commonwealth Government. That is not correct. Copies of the report were sent to the Prime Minister through the Premier with a covering letter, on 27 February, 1952. It was in its typed form at that stage.

Mr. Evans: Seeking financial assistance?

Mr. FOLEY: Yes, suggesting that they co-operate with this Government in financing the project.

Mr. Evans: Have you received a reply?

Mr. FOLEY: We have had an acknowledgment, saying that the report has been received and that the matter is receiving consideration. I hope it will not be a repetition of what has happened previously. In respect of the Burdekin scheme, for instance, I understand that the Commonwealth Government have demanded all kinds of exact information that is not available at this stage, nor can it be available for some time.

An Opposition Member: It would be very nice to get it.

Mr. FOLEY: That is so. The hon. member for Mirani said that if he was considering such a proposal as a member of certain organisations, he would insist on the fullest detail. However, there are some proposals in respect of which it is impossible to supply every detail if you want to make some progress towards beginning work on them. In regard to this scheme, as has been pointed out by the Commissioner, already experts have studied aerial surveys carried out by the Air Force. Those men know their job. The aerial photographs are placed together, and with the aid of magnifying instruments it is possible to see every gully and gorge in the area. All that the Commissioner has to do now is to check up with his surveyors and get the contours of the various parts of the country where the big channels will go. However, the information that has influenced him in making his report and recommendations is all that is required by an engineer, and it is all contained in this report.

Mr. Muller: What do you propose to grow besides tobacco?

Mr. FOLEY: If the hon. member had been present he would have heard me say that, in addition to tobacco, it is proposed to produce cotton, which we have proved in the Theodore area can be grown very favourably under irrigation conditions. Another crop that could be grown is potatoes. If suitable land in the area is put under potato cultivation, it is estimated that it will produce at least 33,000 tons a year, which would be a reasonable contribution towards the requirements of this State. Another crop mentioned is cowpea, which is in great demand all over the State. It is expected that large supplies will be produced, to the advantage of farmers throughout the State.

Mr. Muller: I am speaking now of Dimbulah.

Mr. FOLEY: I am dealing with the Mareeba-Dimbulah area.

There are also tropical fruits. As hon. members know, canning factories have been established for the handling of tropical fruits, and they are doing a very fine job. I can foresee the extensive growing of tropical fruits on suitable soils in this area. That will naturally result in increased supplies to the canneries, which will then be able to increase their output. By that time it is quite probable that we shall have developed to a greater extent than at present the deep-freezing of fruit and vegetables that are being used successfully on a very small scale already. I foresee big developments in that respect. Instead of being marketed in the North, a big proportion of our tropical fruits will be frozen or canned and sent to other parts of Australia.

Finance Essential.

I have endeavoured to cover the whole of the matters raised by hon. members. I may have missed a few points on the financial side, which was touched upon by Mr. Nimmo. That is a matter for the Treasurer of the future. If we can get the co-operation of the Commonwealth Government in this and the Burdekin scheme, to be followed by the Dawson Valley and Nogoa schemes, we shall make a big contribution towards supplying the foodstuffs that are even now in short supply, which will be accentuated between 1958 and 1960.

Mr. H. B. Taylor: That raises the point as to which would have been the better scheme to undertake, the Nogoa, the Dawson or the Mareeba-Dimbulah.

Mr. FOLEY: On purely personal grounds I should have preferred the Nogoa scheme. If we are to help the grazing industry we must have a big project and the Nogoa will be a big project. The Dawson scheme will serve a tremendous area but we have almost completed our work there. All the information was correlated back in the early stages of this project and the final report is not far off.

We are faced with periodic droughts in the pastoral industry. Emerald is virtually in the centre of the pastoral industry, and naturally we must have a bigger project than this one to deal with the pastoral industry. A bigger project requires a greater amount of water and with it we could irrigate pastures for the growing of lucerne and other fodder crops in time of drought. Then the fodder, the lucerne, and the grain would not have to be carried long distances and heavy transport costs would not be involved. If we had an irrigated area in the centre of a big pastoral district the cost of transporting the fodder would be virtually nothing. We should have the fodder on the spot. I can foresee also that many men engaged in sheep-raising in the area would form co-operatives and grow fodder as part of their ordinary pastoral pursuits.

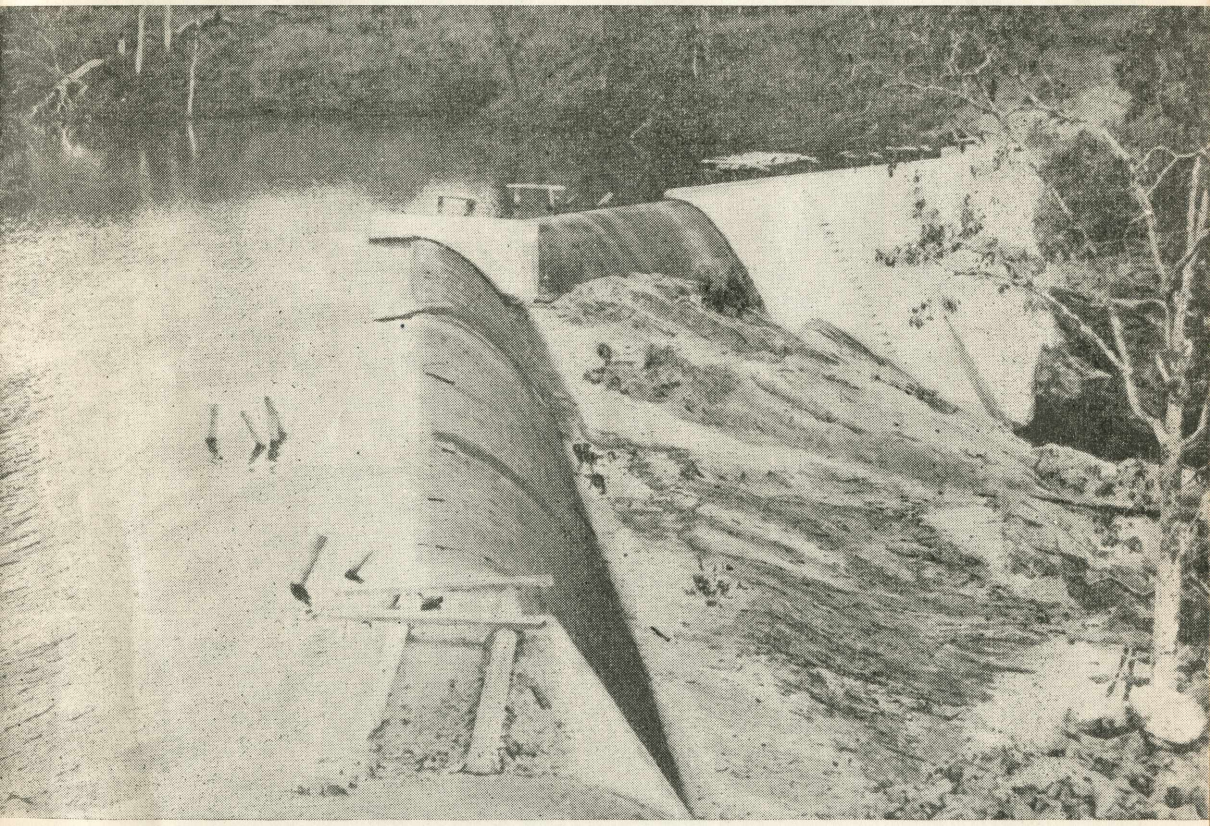
Mr. Muller: You are satisfied that the soil on the Nogoa is satisfactory for the purpose?

Mr. FOLEY: Yes. We have proved it in the little town of Emerald. Since a water scheme was constructed there the people have been able to grow citrus fruits, vegetables, lucerne and other fodder crops—only in a small way. Naturally the application of water on a large scale will give bigger results.

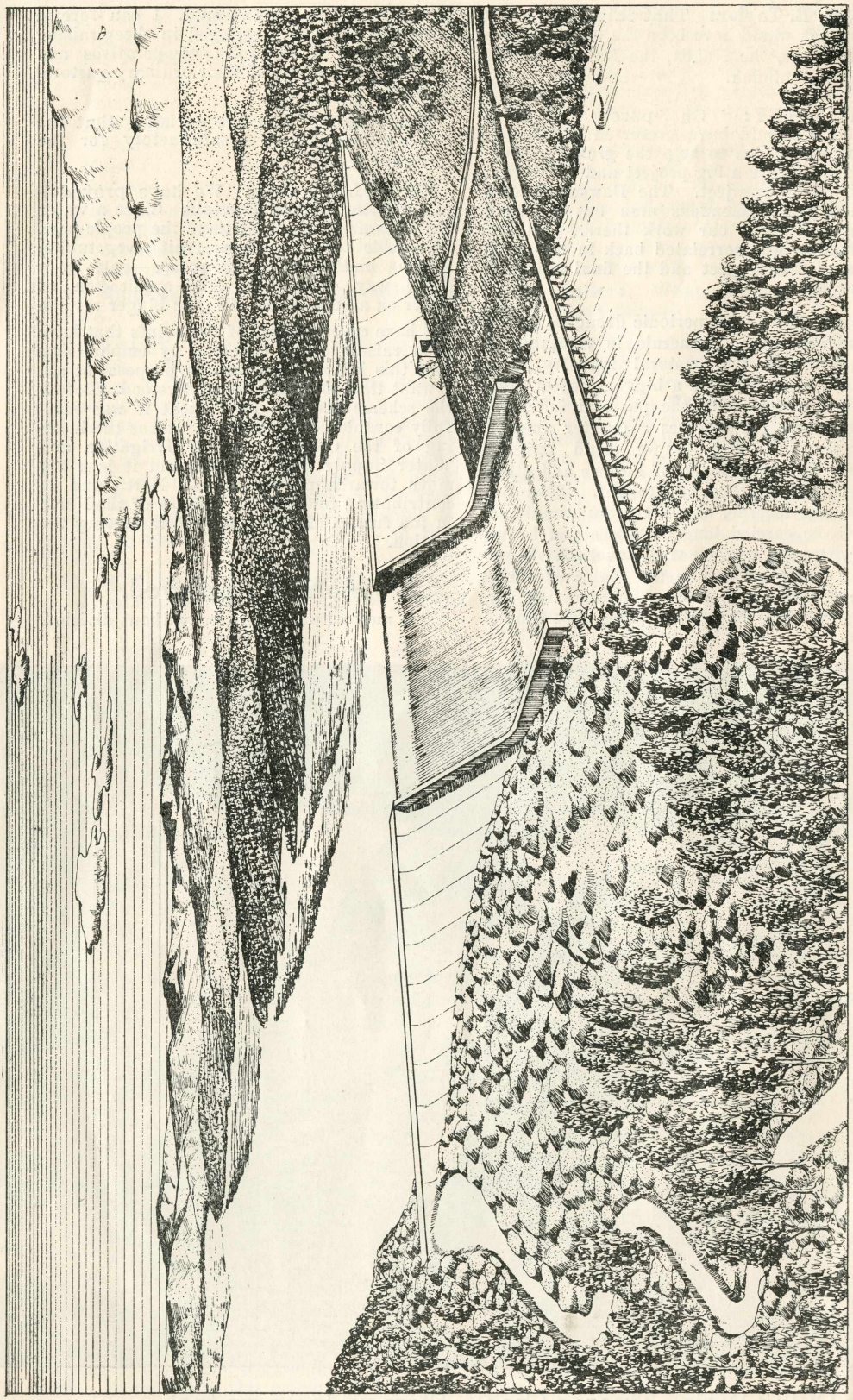
I have covered most of the points that have been raised and I conclude by emphasising that this is not a propaganda proposal at all. I want that to be clearly understood. Before the scheme came to Parliament it was carefully considered by Cabinet. It has the blessing of the Commissioner of Irrigation and Water Supply and his staff and it is a big move towards populating the North and so contributing towards the defence of the North in the future. I have pleasure in moving the motion.

Motion Approved.

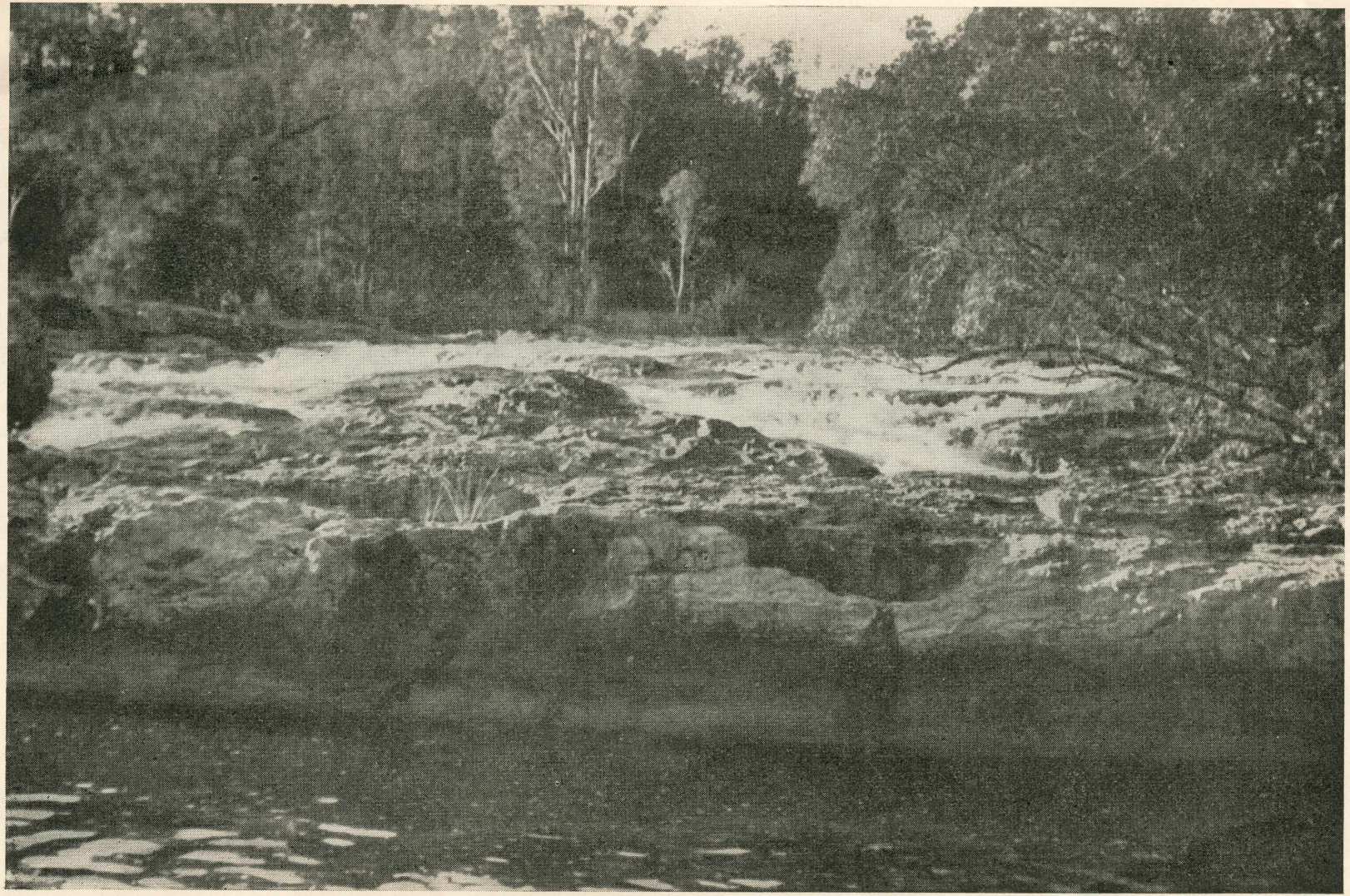
The motion was approved without division.



Dulbil Weir—Tinaroo Creek. Storage, 220 acre-feet.



TINAROO FALLS DAM



Barron River at Tinaroo Falls—A dam site at 61 miles on the Barron River.

Millaa-Millaa Falls, North Queensland.

Is a Water Supply Valuable ?

★

23.4.52

Brisbane Telegraph

BIG MARKET FOR QLD. TOBACCO LEAF

CANBERRA: There was an unlimited market for the type of high quality tobacco leaf that North Queensland could produce, the Minister for Commerce (Mr. McEwen) said today.

He was commenting on the decision of the Australian Agricultural Council to encourage an increase in the acreage under tobacco from 6,000 acres at present to 16,500 acres in 1957-58.

Mr. McEwen said producers could rest assured that with the dollar stringency and existing high duties there was no likelihood of the Australian market being swamped with imported tobacco leaf.

"But if we can produce tobacco surplus to our requirements, Britain would be delighted to buy it rather than purchase from the United States for dollars," Mr. McEwen added.

Referring to the overall expansion programme for the tobacco industry Mr. McEwen said the greatest development would occur in Queensland, where the land and "know how" were available and the authorities had a wide knowledge of the types of soil that would produce tobacco.

Prospects of the expansion programme succeeding were enhanced by the satisfactory profits available.

The only limiting factor to production in Queensland was irrigation.

At present water for tobacco was supplied by pumping from creeks.

"In Queensland it is more a matter of some minor works rather than major irrigation projects," he said.

The Courier-Mail

Our Liberty depends on the Freedom of the Press, and that cannot be limited without being lost.—Jefferson.

Irrigation unlimited

THE Government has obtained Parliament's approval for another big irrigation project—a dam on the Barron River designed to serve 78,200 acres of farm land in the Mareeba-Dimbulah district behind Cairns. Its cost is estimated at £20,000,000.

Year by year the Government's irrigation programme goes on expanding. The Burdekin River Authority has just issued a massive report which says that North Queensland could count upon adding 50,000 people to its population and could increase its annual production of food and other primary products by £16 millions a year if this great scheme were fully developed. But the estimate of its cost has been raised to £70 millions.

Then there is the plan for irrigating 70,000 acres by impounding the waters of the Dumaresq-Barwon Rivers on the Queensland-New South Wales border. The New South Wales Government has agreed to build the key dam, and Queensland is to construct 14 weirs and regulating stations.

The Opposition Leader (Mr. Nicklin) is justified in suggesting that in this mapping of so many areas of Queensland for big irrigation works there is little hope for early completion of any single project.

Even with large financial assistance from the Commonwealth the Irrigation Department could not obtain the materials, the manpower, and the technical staff it would need to press on with all these undertakings in such widely separated regions of the State.

What is needed is a realistic estimate of the resources the State has for carrying out in the next few years irrigation works that would be quickly productive and would repay their cost. This would give the basis for a practical programme of irrigation development.

Very good returns in increased production have been obtained by farmers who have had the enterprise to build small weirs for conserving water, and there must be equal opportunities in other areas.

The Government has switched its enthusiastic advocacy of grandiose irrigation schemes from the Burdekin to the Border and back to the Barron River. It has raised great hopes and then has had to defer its promises of fulfilment.

On the other hand it appears determined to make early electrification of Brisbane's suburban railways a definite target. It is difficult to reconcile this with its show of giving priority to irrigation and other rural works that would help the State to grow more food.

3.4.1952

BRISBANE TELEGRAPH

WATER CONCERN

CHILLAGOE: Dimbulah and Almaden districts are apprehensive of acute water shortage as the dry spell continues. Only good winter rains can tide settlers over the year.

Many droving trips have been cancelled because of the water position along droving routes.

24.4.52

The North Queensland Register

IRRIGATION—

PARLIAMENT PASSES HUGE SCHEME

"Tinaroo Ready In 1956/1957"

BRISBANE, April 1.—Water would be available from the Tinaroo Falls irrigation dam on the Barron River in 1956-57, the Lands Minister (Mr. T. A. Foley) announced in Parliament to-day. Irrigation in the Mareeba-Dimbulah district would be developed progressively until the dam was complete in 1968-69, he said.

State Parliament approved Tinaroo Government's £20,000,000 after nearly six hours' debate. Tinaroo Falls scheme to-night

Mr. Foley said the scheme was expected to increase the population of the north by 16,000 and therefore would be of defence value.

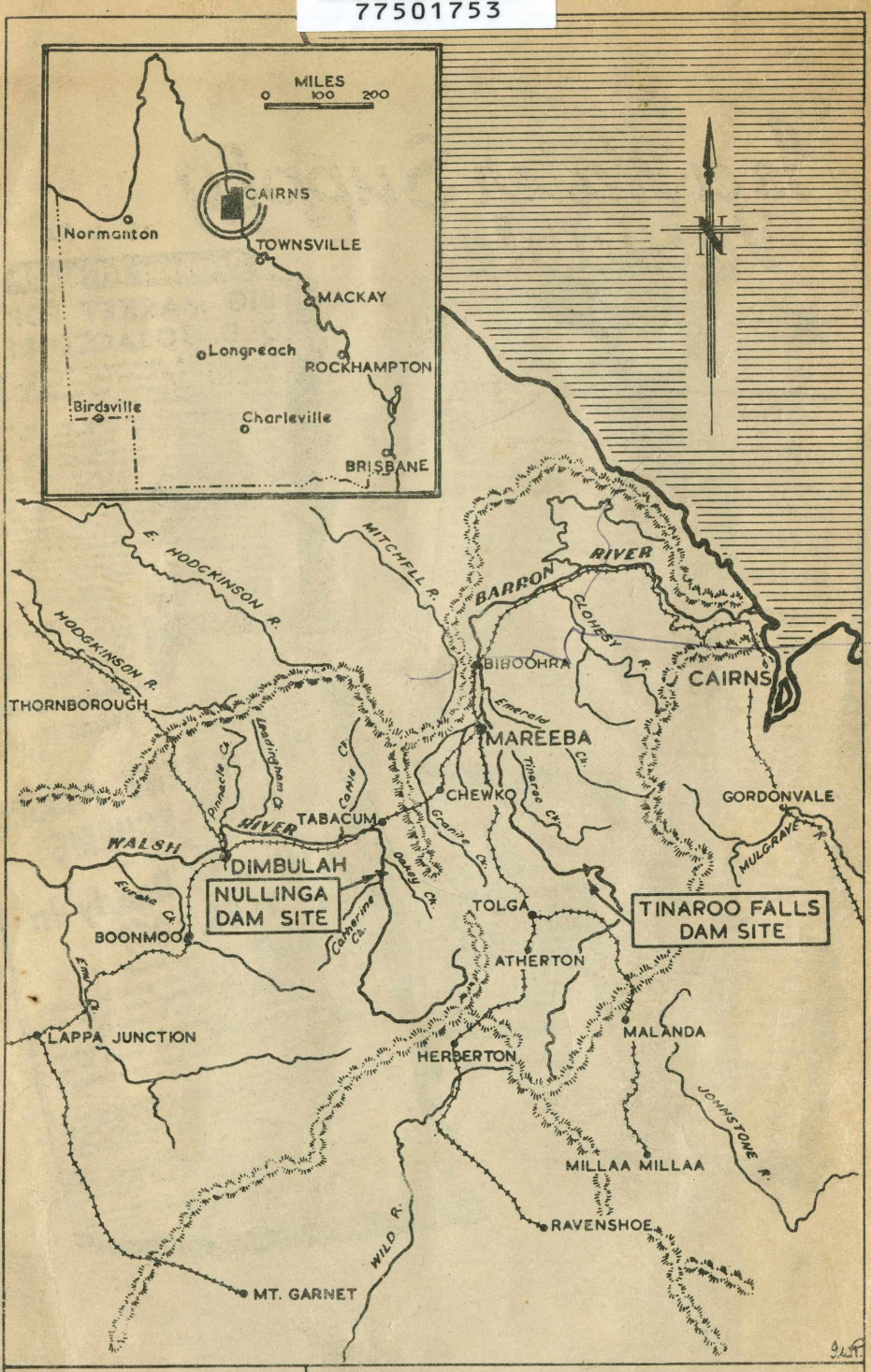
He said after the House adjourned that the Government would acquire 85,000 acres in the Mareeba-Dimbulah district.

The scheme was designed to serve 78,200 acres of farm land, 38,000 of which would be irrigated annually by rotation.

Mr. Foley told Parliament that of which 11,800 would be for tobacco, 16,820 for potatoes, pumpkins and peanuts, 9600 for mixed agriculture such as cotton, maize, cowpeas, peanuts and other root crops.

Revenue, it was estimated, would be £287,100 annually, leaving £788,700 to be found by the State or the State and Commonwealth.

The State Government had asked the Federal Government in February for financial co-operation. The Prime Minister (Mr. R. G. Menzies) said that the



SCALE OF MILES
4 0 4 8 12

QUEENSLAND
IRRIGATION AND WATER SUPPLY COMMISSION

MAREEBA–DIMBULAH IRRIGATION PROJECT

LOCALITY PLAN

FIG. 1